Shoreland Management Advisory Committee Meeting Notes
June 24th, 2003
Stevens Point – Portage County Annex Building

I. Introductory Remarks --- Al Shea & Toni Herkert

Al: Originally, we had planned to have one more meeting after a meeting on each of the 4 key issues before going to the public listening sessions. DNR staff and committee members have pointed out that we have not talked about some issues (for example, forestry issues, conservation subdivisions, etc.). In the past, in similar advisory group situations, we formed small work groups to round out the rule package.

We'd like to spend July and maybe half of August working with small work groups before having the next full advisory committee meeting. Work groups on:

- agriculture
- forestry
- alternative development (conservation developments, PUDs, condos, apartments, and townhouses)
- recreational areas (e.g., public access areas, marinas, campgrounds, resorts, docks)

There will be 4 to 8 members per work group composed of some members of the advisory group and other additional members integral to the discussion.

Miles B.: I represent forestry. I would be very much in favor of a work group on forestry.

Karl: Parking lot issue should be incorporated into one of the work groups' agendas.

Q (Jay): How will we staff these groups?
A (A): We'd want a balance of members representing different points of view, to develop recommendations back to the entire advisory committee.

Q (Nancy): Would a DNR staff person lead the groups? Where would they meet? How many meetings?
A (Al): A DNR staff person will chair the group. They can meet around the state as appropriate. I assume the groups would need to meet 1 or 2 times.

Run-off rule example: How should those rules apply to road building? A work group was formed of DOT, road building representatives and environmental groups. It was a productive process.

Q (Phil): The regular advisory committee meeting would not be held in July?
A (Al): That's correct. All of the recommendations of the work groups would be brought back to the entire group in August.

Q: Campgrounds and resorts are a big issue in the North. Are you intending to try to expand NR 115 to apply to incorporated areas when you refer to "urbanized waters"?
A (Al): No; NR 115 generally doesn't apply to incorporated areas (except for annexed and newly incorporated areas), and we are not proposing to change that.

Q: What about the issue of flexibility and mitigation issues?
A (Al): We have been talking about flexibility and mitigation as part of other topics; and we intend to include a discussion of flexibility and mitigation in the wrap-up meeting of the entire group.

Q (Nancy): Will the "recreation areas" topic include privately owned as well as publicly owned recreation areas?
A (Al): Yes.

Al: Since I haven't heard any objections, we'll proceed with this work group approach. The July 15th meeting will be canceled. At lunch we'll have sign-up sheets for the work groups and take the month of July and the early portion of August to have the work group meetings.

Nancy: Suggested that people sign up for more than one group and list which on is your first preference.

Matthew Stohr is substituting for Mark O'Connell.

John Kasner is substituting for Jerry Deschane.

Paul Kent: It has been mentioned before that at some point, the committee members would like to see rule language.

Al: This would be a good time to review the entire process we're undertaking. This is our 6th meeting; we'll bring the output of the work groups back to the entire advisory committee. We'll take the recommendations of the committee to public listening sessions in the fall of this year.

We (the DNR) will come back to this committee with a summary of what is said at the public listening sessions (late fall or winter). Then, draft rule language will be prepared. In early 2004, draft rule language will be brought back to this advisory committee.

Then we'll go through the formal rule-making process, and hold public hearings around the state, after obtaining authorization from the Natural Resources Board.

Paul: We would get better input from public listening sessions if we had definitions and specific rule language to present.

Q (Nancy): Where will the public listening sessions be held?
A (Al): In larger cities around the state. We'll try to get geographic diversity.

Q (Jay): Weren't we going to set our next meeting?
A (Al): Yes, Tuesday, August 26th. The location will be announced later.

II. Development Density – Research Summary --- Paul McGinnley

Al: We have tried not to overwhelm the committee with scientific information to date, but we have asked Paul McGinnley from the UW-Stevens Point to give us a research summary that is relevant to the topic of development density.

McGinnely will discuss the research done on water quality, habitat, and wildlife impacts of shoreland development. He has prepared a list of resources that he has consulted. Members of the committee can request a copy.

Paul McGinnley:

(1) Precipitation of 30" to 34" a year in Wisconsin is the major factor in shoreland area. USGS surveys have shown in forested areas; 20-23" transevaporation, 7-10' infiltration, and 1-2" run-off; "impervious surface" means that water that falls on it runs off.
(2) Pathways to surface water are another important factor: generally, a downhill progression; even infiltrated water will usually discharge into surface water from groundwater migration; surface flow to surface water makes a big difference.
(3) What is the concentration of substances in the water?
(4) How important is the transfer of substances to the surface water?

Example: (300 acre lake, assuming a 300-foot near shore area)
Q: How much phosphorus in the system?
A: 20,000 lbs of phosphorus sitting within the 300-foot near shore area.

Q: Is that a lot of phosphorus?
A: A 300-acre lake with relatively good productivity would have 300 lbs (15 ppb) of phosphorus in the water.

Phosphorus is important to plant growth. As organic material decays, it reabsorbed by the plants. Only a small fraction of the phosphorus leaves the system and runs into the lake in a forest setting.

The percentage of surface that is impervious is directly correlated to the percentage of water that runs off instead of infiltrating. The percentage of impervious surfaces in residential areas ranges from 10% to 60%. Also, infiltration rate varies depending on compaction of the soil, soil type, and slope (which all change the pathway of the water).

Pathway changes mean more water is concentrated in flow that moves faster and has the ability to carry more solids. There is also reduced contact with the natural system that would normally take up the phosphorus.

Phosphorus is a fairly reactive element. Where there is longer subsurface water/soil contact, the phosphorus has an opportunity to react with the soil. When it runs quickly over the surface, the water will pick up phosphorus and not have the opportunity or time to react with the soil and the minerals in the soil.

Q (Chip): Why is there such a detrimental impact from development, as you allege? If the 300-foot shoreland area were all paved, water wouldn't pickup any phosphorus as it ran over the pavement, right?
A (Al): But impervious pavement surfaces increase run-off and speed of run-off over soil and leaf litter, etc. where phosphorus is picked up.

Groundwater has relatively low phosphorus concentrations (dissolved phosphorus, that is) sediment has been filtered out.

2 mg/l in surface water flowing over the surface makes a tremendous difference as run-off increases.

Jay: He has seen results of 4 Wisconsin studies where 80-90% of run-off to a lake occurs in the spring when the ground is frozen; the rest of the year, the phosphorus run-off becomes negligible.

Paul: Results are site-specific and depend on a number of variables.

Chip: In your calculations, you haven't subtracted impervious pavement surfaces from all impervious surfaces.

Paul: Where there is a tree canopy over pavement, there is still phosphorus uptake from leaf litter.

Q: How does slope affect phosphorus concentrations?
A (Paul): Slope affects infiltration rate.

Q (Jim): You mentioned turf grass – is it less pervious than undeveloped areas?
A (Paul): If compacted, it would be less pervious than an uncompacted area.

Q (Jim): Zebra mussels clear up the water in infested waters. Is there a direct correlation between presence of zebra mussels and concentration of phosphorus in the water?

A (Paul): No.

III. Development Density --- Toni Herkert

Toni: We have 4 issues to go over today; lot sizes, impervious surface standards, NC lots, and setback averaging.

Lot sizes

- Toni discussed 3 shoreland lot size issues (in power point presentation).

- She raised the question: Do current lot sizes meet the intent of the program?

- She pointed out that some counties have increased minimum lot sizes, and have adopted water body classification systems.

- She explained the 5 options that have been identified by DNR staff.

Q (Jay): How would limitation on slopes greater than 20% be applied?
A (Toni): The property can still include slopes of 20% or more; there just has to be at least 5000 square feet of lesser slope.

Nancy: Another reason to eliminate small lots is that groundwater levels are decreasing near highly developed lakeshore areas.

Q: How is width measured at the OHWM?
A: - Perpendicular to side yard boundary at OHWM (don't use water line or meander line for measuring)
- Minimum lot width won't work for all situations (example, lots on a cul-de-sac)

Q: what is the problem with an average lot width standard?
A: There could be a pie-shaped lot with less frontage.

Comment: But you'd have the same number of homes

The committee members raised other options.
(1) Minimum average lot width

(2) Minimum average lot width within 75 feet of the OHWM

Comment: We need to be clear what we are referring to when we say "frontage"; water frontage or road frontage.

Carmen: Very dense usage of a lake can result if lots are configured with very narrow corridors down to the lake and wide areas away from the lake. Some counties have required 100-foot width at OHWM and 100-foot width at building site.

Comment: In Northern Wisconsin, you are unlikely to see sewered development in unincorporated areas.

Toni: You need to remember that newly incorporated or newly annexed areas may be sewered, and those areas remain subject to shoreland zoning standards.

Michael Dresen: Some of the issues related to sewered vs. unsewered lots can be addressed in discussion of alternative development options.

Nancy: One lot size should be required for both sewered and unsewered areas.

Q (John): If people are eager to encourage sewers instead of septic systems, won't taking away smaller lot sizes discourage instillation of sewer systems?
A (Richard W.): There isn't a need for distinguishing between lots with sewer systems (which are designed to leak) and septic systems. Research has shown no need for different sized lots.

Michael Dresen: Lot width should be measured as a cord that intercepts the OHWM and is as nearly perpendicular as possible to both lot lines.

Phil: It works well to specify a minimum width at OHWM, a minimum width at structure building line, and minimum average lot width (3 part requirement)

Elmer: Minimum average lot width only works if you also set a minimum square footage between OHWM and 75-foot setback line.

Nancy: Agreed; they have many lots in Walworth County with 20-foot wide frontage on the water.

John: A lot of people will have their lots rendered nonconforming if we change the lot sizes.

Phil: WCCA thinks option A is the best. We don't want to create more NC lots.

Toni: One of the issues that we will be discussing later is allowing development on NC lots. Maybe we should discuss the NC lot options first.

The group consensus was to wait to vote on options until the end.

John: Another option would be to use a square footage standard only, with no minimum lot width requirements.

Nancy: We should talk about impervious surface regulations before asking for opinions on lot size regulations.

Q (Tom L.): Have we outlined what our objectives are in creating minimum lot sizes?
A (Al): We are trying to control density as it affects navigable waters.

Q: Are we going to add "aesthetics" to the objectives for minimum lot sizes?
A (Carmen): Lot size regulations should be designed to serve all of the purposes of shoreland zoning; not just a few of them. The existing rule language will need to be revised.

Q (Tom L.): Do you plan to expand the rule language on the purposes for minimum lot sizes?

Q (Glenn): Why is slope a factor in some of these options?
A (Toni): It is intended to address building site issues, among other things.

Q: How do these options compare to what is currently being done and compare to scientific information?

Michael: It would be very difficult to accomplish our objectives with only a square footage requirement.

(Lunch)

Al: DNR staff suggested that we'll go through all of the options for all 4 issues before we ask for everyone's views on the options.

IV. Impervious Surfaces --- Kevin Kirsch

Kevin thinks that the answer to both of the impervious surface issues outlined in his Power Point Presentation is yes. He reviewed the impacts of not regulating impervious surfaces.

- Compacted soil can act as an impervious surface, in addition to such surfaces as rooftops and pavement.
- Example: rising water levels in Lake Mendota due largely to development of the watershed. Lake Mendota is no longer fed by groundwater; currently, the lake recharges groundwater instead.

He and his colleagues did modeling \using the SLAMM model that has been extensively validated.

Total amount of phosphorus that runs into surface water from forested areas is much less than from more impervious areas even though there are relatively high concentrations of phosphorus in the leaf litter on the ground in forested areas.

Q (Jay): How mature does a forest have to be to provide a good buffer?
A (Kevin): Having a wide lot with a buffer, instead of a narrow lot, will increase the effectiveness of a buffer. This is more important than the maturity of the trees. If you want to minimize the impact of impervious surfaces, you need to limit impervious surfaces to 20% or less. At more than 20%, impervious surfaces, most of the damage has already been done.

Al Shea: Kevin's presentation is intended to explain an alternative approach – to establish performance standards that can be implemented by a landowner or landscape architect, by using BMPs (best management practices).

Potential BMPs for 90% control

(1) Conservation design – using plantings of native vegetation for portions of the lot in addition to a buffer along the shoreline.
(2) Rain gardens – USGS manual on how to build them is available. They don't have to be planted as a garden. They can be grass. Soil amendments would likely be necessary to make soil less compact. Run-off has to be directed toward the rain garden.
(3) Disconnect impervious areas – Downspouts from roofs should not discharge to another impervious surface.
(4) Infiltration/treatment swales – Flat channels with dense vegetation, to further slow the flow of water. Buffer strip will only work with sheet flow. If water flow becomes channelized, you need some sort of swale system.
(5) Porous pavement and paving stones – using gravel and sand underneath.
(6) Bioretention basins – A larger version of a rain garden that works well in marinas and parking lots near surface waters.
(7) Shoreland buffer strips – NR 151 agricultural buffer strip standards are still being developed. Water can't be concentrated as it flows through the buffer for the buffer to function as intended. Rain gardens and other measures are needed to infiltrate water and reduce volume of surface flow.
(8) Nutrient management – To reduce application of fertilizer within 1000 feet of surface waters. Phosphorus bans can be enacted.

Q: Can no-phosphorus fertilizers be used and achieve the desired result?
A (Kevin & Richard): Yes, but you don't want excess nitrogen levels either which would promote growth of rooted plants.

Kevin: Cost of an average rain garden if contractor-installed: $7,000 (or $10 a square foot).

Q (Glenn): What about dry wells (or infiltration trenches)?
A (Kevin): Pollutants and nutrients would have a conduit to the groundwater. They are o.k. if limited to channeling roof run-off.

Q (Chip): You are proposing a cost that would be unnecessary in sandy areas of the state. How will a homeowner know that is required?
A (Al): In NR 151 context, a matrix was developed that landowners could understand and implement. We could reference this matrix in NR 115.

Chip: Another option besides caps is needed, because no one will want to limit development to 1,000 square feet.

Phil: You'll need to require a conditional use permit or review by land conservation department.

Michael: Performance standards are especially helpful in non-residential development. A combination of B and C is another option.

John: A driveway that is 12 feet wide on a 200-foot deep lot will use up all of the impervious surface cap allowed.

Glenn: What about lots where water drains away from lake or river? There should be credits for good stewardship that has already been implemented.

V. Nonconforming Lot Options --- Gary Heinrichs

Power Point presentation reviewing the nonconforming lot issues identified.

The guiding principles that DNR staff developed for development on NC lots, and specific proposals for NC lot standards was presented.

Q (Karl): Have you considered requiring minimum side-yard setbacks?
A – not at this point

Chip: He thinks that this approach is the right way to go. However, many roads have a 66-foot ROW and there may not be a setback, or the setback may be from either the ROW or road centerline. Small lots will need to have a reduced impervious surface standard; if there is one.

Phil: This is a good option, but it shouldn't be in NR 115. Not all counties can control setbacks from town roads or state highways.

Michael: There are a lot of problems associated with road setbacks – if the standard is worded generally that road setbacks can be reduced, counties can fill in the details.

Jay: The insurance industry has raised an issue regarding fire protection – recommend a 30-foot clearing around homes for fire prevention.

Linda: Clearing vegetation around buildings for fire protection doesn't mean removing all vegetation.

Jay: There is a potential liability from a fire protection perspective if we require a 35-foot no-cut buffer.

Comment: There could be an exception for pruning for fire prevention purposes.

Michael: It is good to point out that because a lot is nonconforming doesn't necessarily make structures on that lot nonconforming.

VI. Setback Averaging --- Carmen Wagner

The basis for setback averaging is reference to "existing pattern of development" in NR 115. Counties have developed their own versions of setback averaging – there is a lot of variation around the State.

Carmen reviewed the guiding principles identified in the Power Point presentation.

Q (Jay): Is a house built using setback averaging a NC house?
A (Carmen): No. At the last meeting, we never resolved how buildings straddling setback lines would be treated, did we?

Al: We identified 2 options that committee members favored. We may take more than 2 options to listening sessions.

Phil: Thought that we were going to try to narrow all issues to 2 options to take to the listening sessions.

Al: We'll try to narrow the options to no more than 3 options, but we want to let the public know about the diversity of opinion on the committee.

Nancy: Concerned that some of the more restrictive options won't be mentioned even though there were committee members who favored them.

Carmen described recommended regulations for setback averaging with examples shown in power point presentation.

Q (Elmer): Why didn't you consider Oneida County's approach? (You can have a development pattern with one house!)
Response: Laughter.

Q (John): Has anyone thought that we should eliminate the concept of "nonconforming" structures?
A (Al): We discussed this issue at our March meeting. Sorry that you weren't in attendance then.

Phil: These options could be in a model ordinance instead of being in the rule. He favors Option A plus no averaging in primary buffer and if there is a complying location, it must be utilized.

Karl: In some counties, garages can be considered "principal structures". If you mean residences, say so.

Tom L.: Other options – (1) current rule, and (2) setback of closer of two existing structures.

<u>Committee Opinions</u>
(1) Do we want to have separate standards for sewered and unsewered lots?
Yes – 9 No – 12

(2) Do we want minimum lot width?
Yes – 15 No – 6

<u>Lot Width Measurement Options</u>
A: 0
B: 11
C: 1
D: Vilas County standard – 4
E: minimum lot width at any point - 10
F: minimum average width – 4

Q (Jay): How do these options apply to peninsulas? He suggests not changing existing NR 115 wording.
A (Carmen): But that allows lots with very small frontage with large back lot areas.

Phil: His county requires 3-part test.

Karl: In Bayfield County, they use minimum water frontage requirement plus minimum width at the building line requirement.

Lot Sizes
A: status quo – 8
B: 20,000 & 100 feet frontage for all – 0
C: 20.000 & 5,000 square feet buildable – 3
D: 30,000 & 150 feet frontage – 2
E: 30,000 & 5,000 square feet buildable – 0
F: C minus 20% - 8

Glenn: 20% slope criteria doesn't belong. He'd favor C without it (F)

Impervious Surface Standards
A: 1
B: 0
C: 5
D: 5
E: 3
F: (B & C) – 6
None of the above – 1

Al: For lots of 1 acre or larger, some of these options won't comply with NR 151, Run-off Management Rules. When voting on these options, only think in terms of lots smaller than 1 acre.

Nonconforming Lot Options
(1) Does the committee support the reduced setback formula approach?
Yes – 20 No – 1

Some members are concerned about roadway setbacks; should condition be added stating: "as long as permission is obtained from town or state?"

Phil: 1st criteria should be optional.

Approve of recommended standards:
Yes – 13 No - 5

Q (Tom L.): Would existing NC accessory structures have to be removed?
A: No.

Nancy: There should be a minimum lot size to be buildable. 20-foot wide lots shouldn't be buildable.

Karl: There may be a way to combine setback averaging and reduced setback provisions.

Glenn: Trans 233 would apply. This is a step in the right direction – needs to be qualified, however.

<u>Setback Averaging Options</u>
(1) Should we allow wetback averaging?
Yes – 5 No – 13
Option choices of 5 members who voted "yes":
A: 2
B: 1
C: 0
D: 2

(2) Should we allow setback averaging when there is no compliant location available?
Yes – 13 No – 5

Karl: Reduced setback formula only applies to NC lots; he favors limiting setback averaging to situations where there isn't a complying location on conforming lots.

Setback Averaging Options – No vote taken of entire committee
Instead of vote – Richard Wedepohl raised a new question – Do we want a reduced setback formula for conforming lots where there is no complying building location? (Instead of setback averaging) Shouldn't we treat conforming lots the same as nonconforming lots?
Yes – 13 No – 5

Comments from Chuck Mitchell via email:

". . . I am very interested in development density. My preferences on your option sheet are:

1. Lot Size: Option E – 150 feet of frontage is important. 100 feet are not enough. (Total area could be 25,000 instead of 30,000).
2. Impervious Surface: Option B – 2500 square feet or 20%.
3. Nonconforming Lot: OK, all provisions.
4. Setback Averaging: Option B – The same as the farther structure.

Meeting adjourned at 3:35 P.M.

Next meeting on August 26th.